

Fig. 1

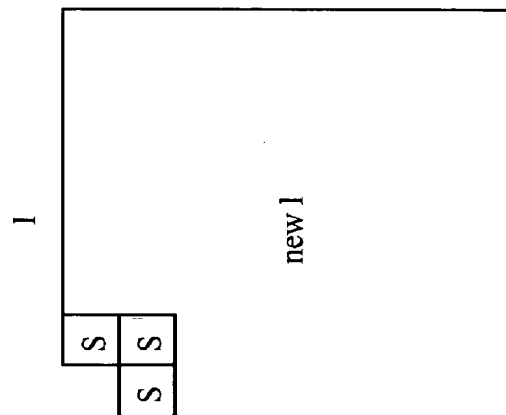


Fig. 5

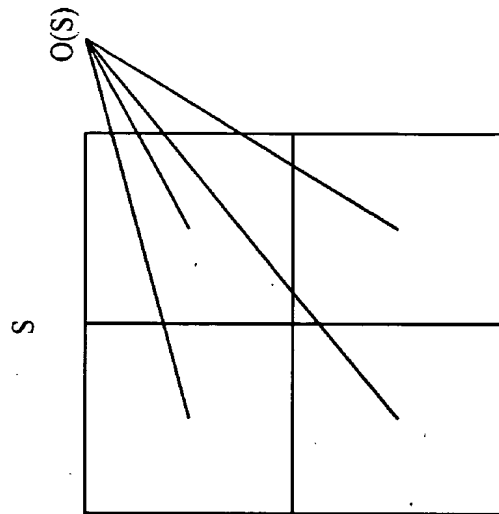


Fig. 4

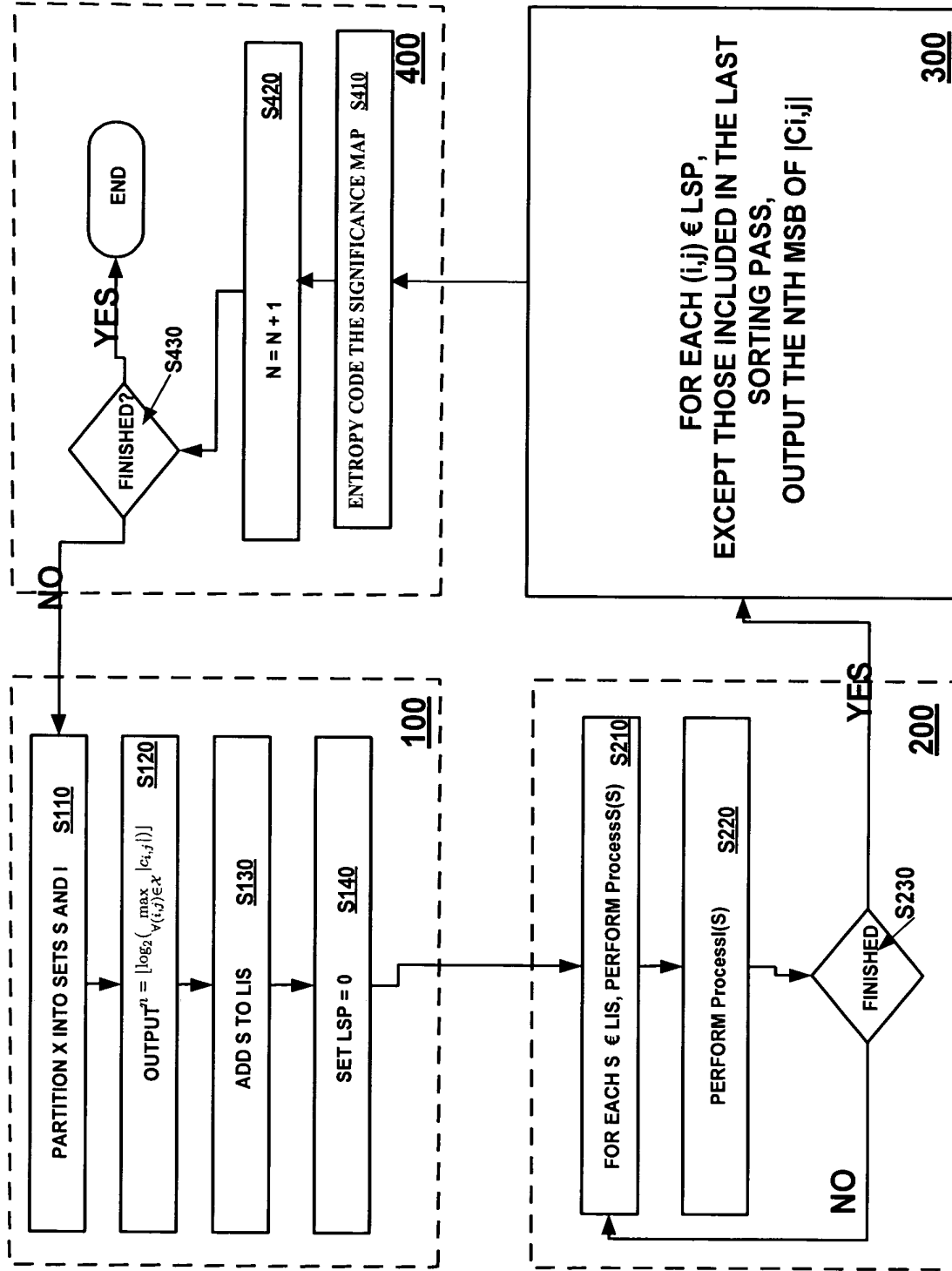


Fig. 2

```
ProcessS( $\mathcal{S}$ )
{
    • output  $\mathcal{S}_n(\mathcal{S})$ 
    • if  $\mathcal{S}_n(\mathcal{S}) = 1$ 
        – if  $\mathcal{S}$  is a pixel, output sign of  $\mathcal{S}$  and add  $\mathcal{S}$  to LSP
        – else CodeS( $\mathcal{S}$ )
        – if  $\mathcal{S} \in \text{LIS}$ , remove  $\mathcal{S}$  from LIS
    • else
        – if  $\mathcal{S} \notin \text{LIS}$ , add  $\mathcal{S}$  to LIS
}
```

Fig. 3A

```

CodeS( $\mathcal{S}$ )
{
    • Partition  $\mathcal{S}$  into four equal subsets  $\mathcal{O}(\mathcal{S})$ 
    • for each  $\mathcal{O}(\mathcal{S})$ 
        – output  $\mathcal{S}_n(\mathcal{O}(\mathcal{S}))$ 
        – if  $\mathcal{S}_n(\mathcal{O}(\mathcal{S})) = 1$ 
            * if  $\mathcal{O}(\mathcal{S})$  is a pixel, output sign of  $\mathcal{O}(\mathcal{S})$  and add  $\mathcal{O}(\mathcal{S})$  to LSP
            * clsc CodeS( $\mathcal{O}(\mathcal{S})$ )
        – clsc
            * add  $\mathcal{O}(\mathcal{S})$  to LIS

```

Fig. 3B

```
ProcessI()  
{  
    • output  $S_n(\mathcal{I})$   
    • if  $S_n(\mathcal{I}) = 1$   
        – CodeI()  
}
```

Fig. 3C

```
CodeI()  
{  
    • Partition  $\mathcal{I}$  into four sets — three  $S$  and one  $\mathcal{I}$   
    • for each of the three sets  $S$   
        – ProcessS( $S$ )  
    • ProcessI()  
}
```

Fig. 3D

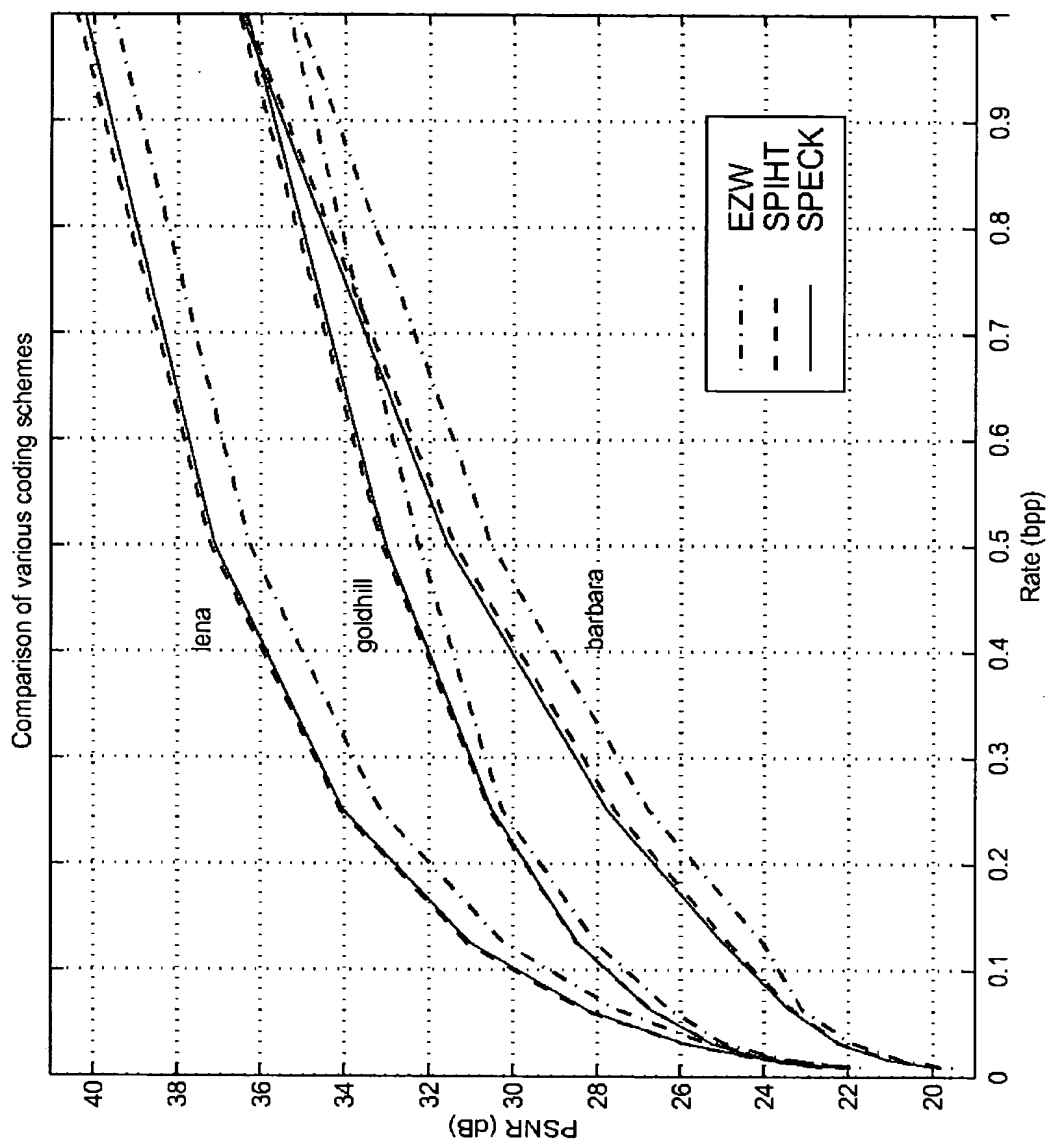


Fig. 6A

Coding method	0.25 bpp	0.5 bpp	1.0 bpp
EZW	33.17 dB	36.28 dB	39.55 dB
AGP	34.10 dB	37.21 dB	40.38 dB
SPIHT	34.11 dB	37.21 dB	40.44 dB
SPECK	34.03 dB	37.10 dB	40.25 dB

Fig. 6B PSNR at various rates for Lena (512 x 512)

Coding method	0.25 bpp	0.5 bpp	1.0 bpp
EZW	26.77 dB	30.53 dB	35.14 dB
AGP	27.81 dB	31.61 dB	36.55 dB
SPIHT	27.58 dB	31.40 dB	36.41 dB
SPECK	27.76 dB	31.54 dB	36.49 dB

Fig. 6C PSNR at various rates for Barbara (512 x 512)

Coding method	0.25 bpp	0.5 bpp	1.0 bpp
EZW	30.31 dB	32.87 dB	36.20 dB
AGP	30.53 dB	33.13 dB	36.53 dB
SPIHT	30.56 dB	33.13 dB	36.55 dB
SPECK	30.50 dB	33.03 dB	36.36 dB

Fig. 6D PSNR at various rates for Goldhill (512 x 512)

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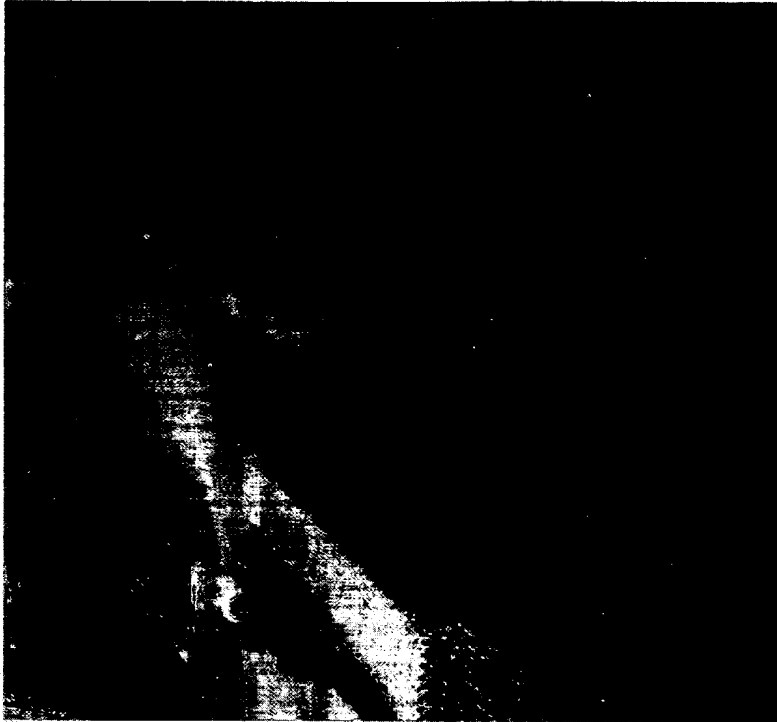


Fig. 7B

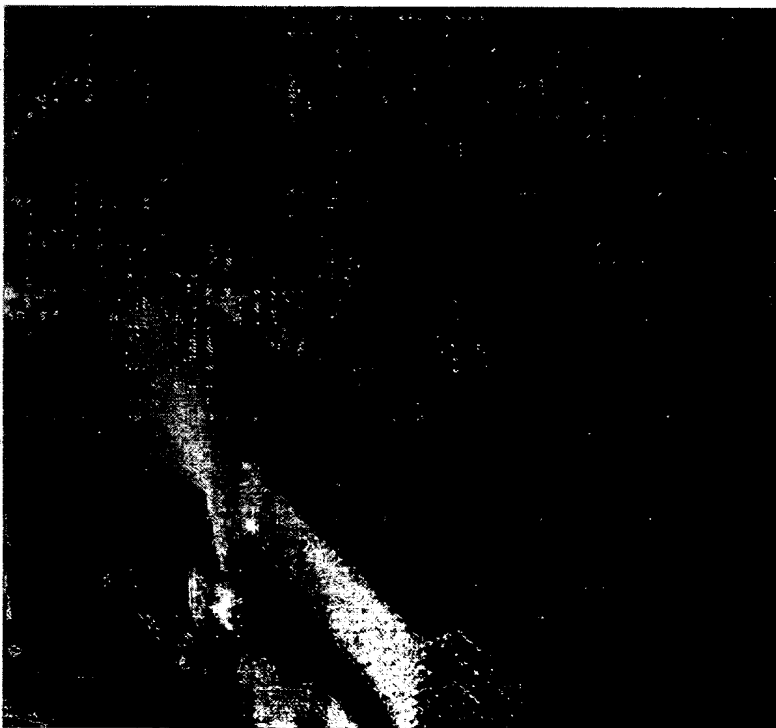


Fig. 7A

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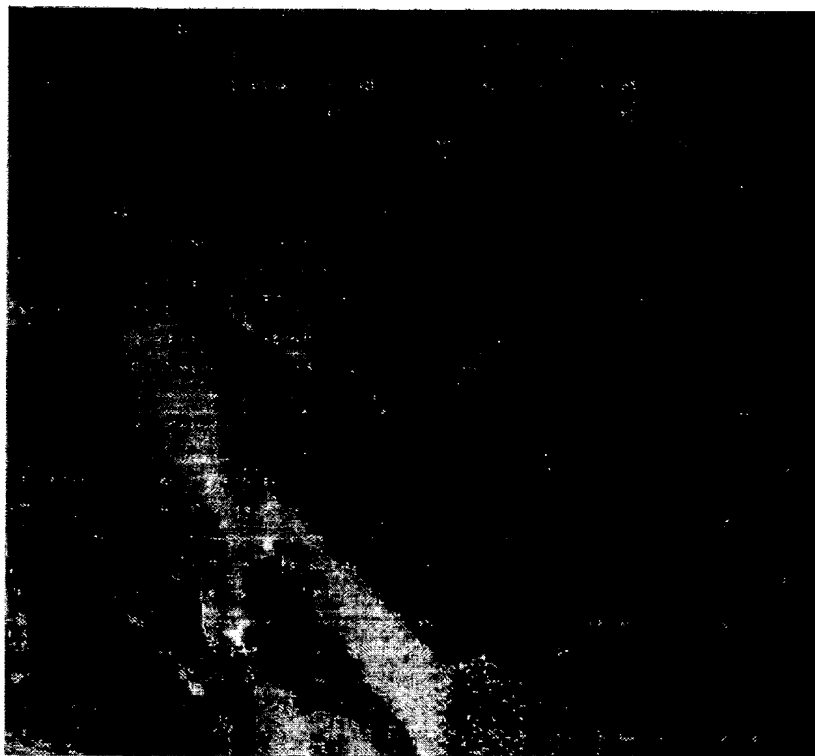


Fig. 7D

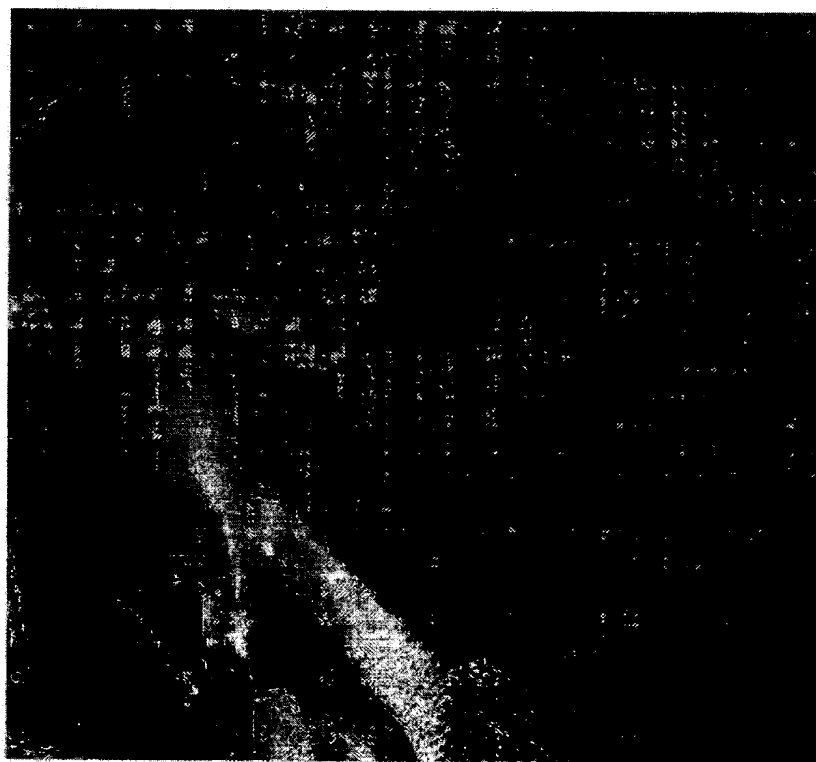


Fig. 7C

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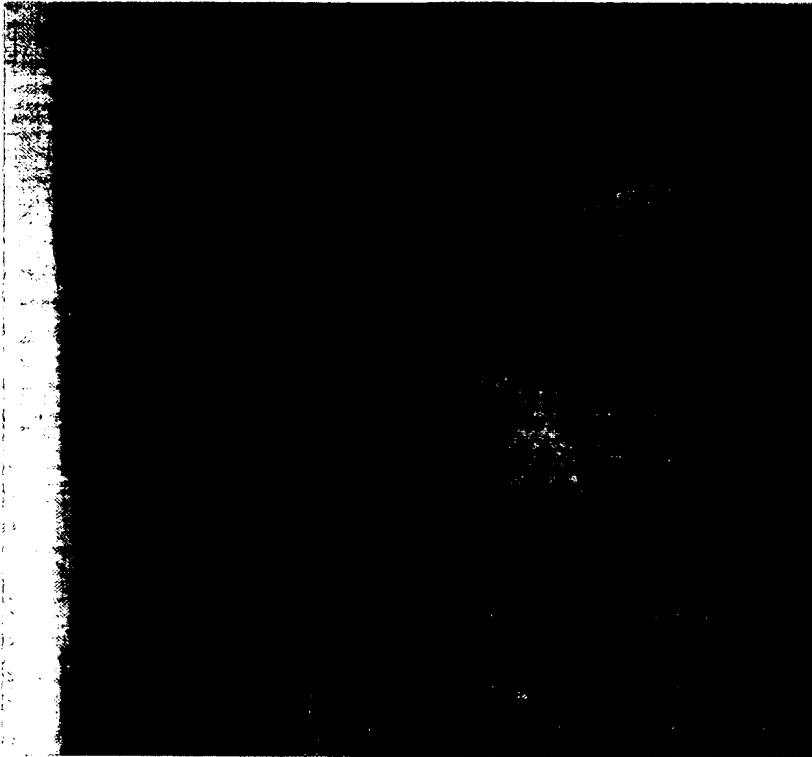


Fig. 8B

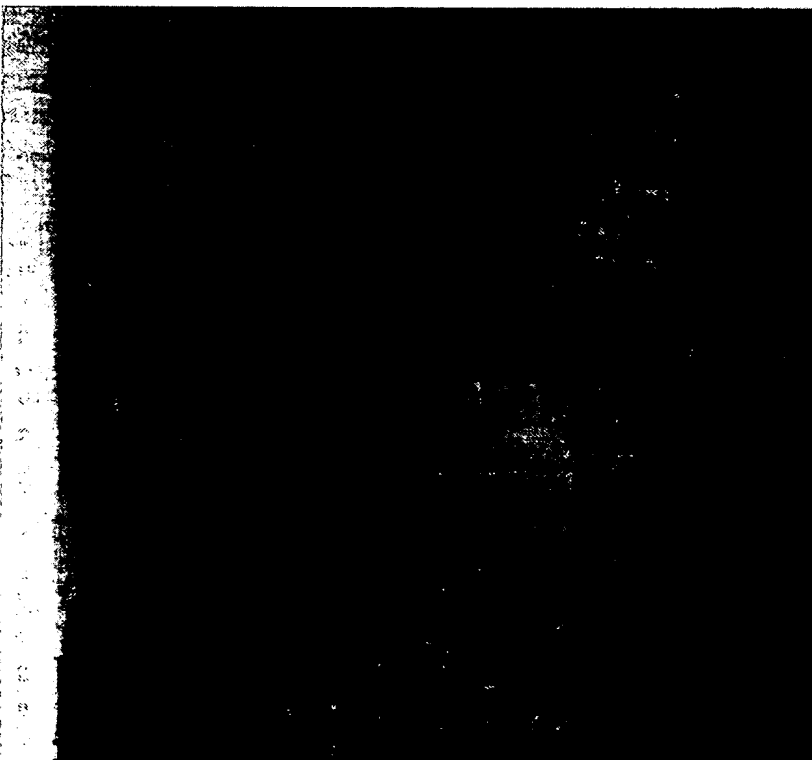


Fig. 8A

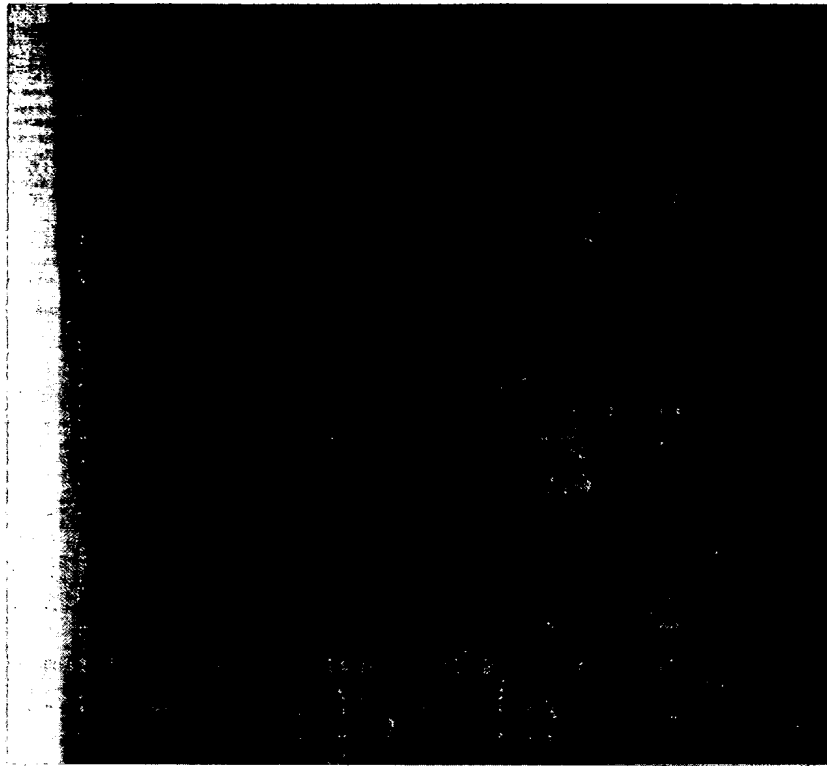


Fig. 8D

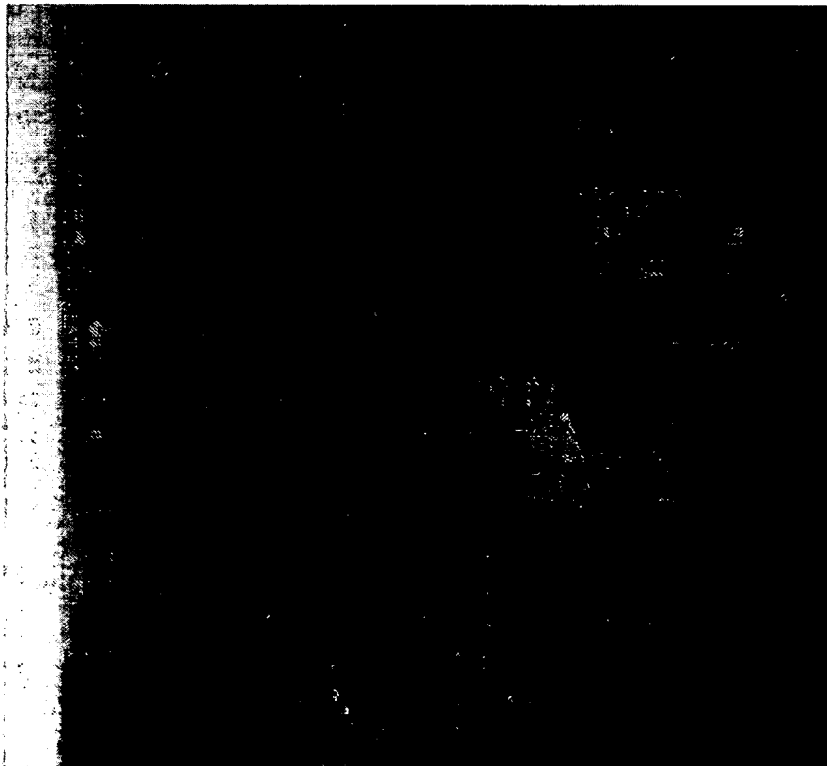


Fig. 8C

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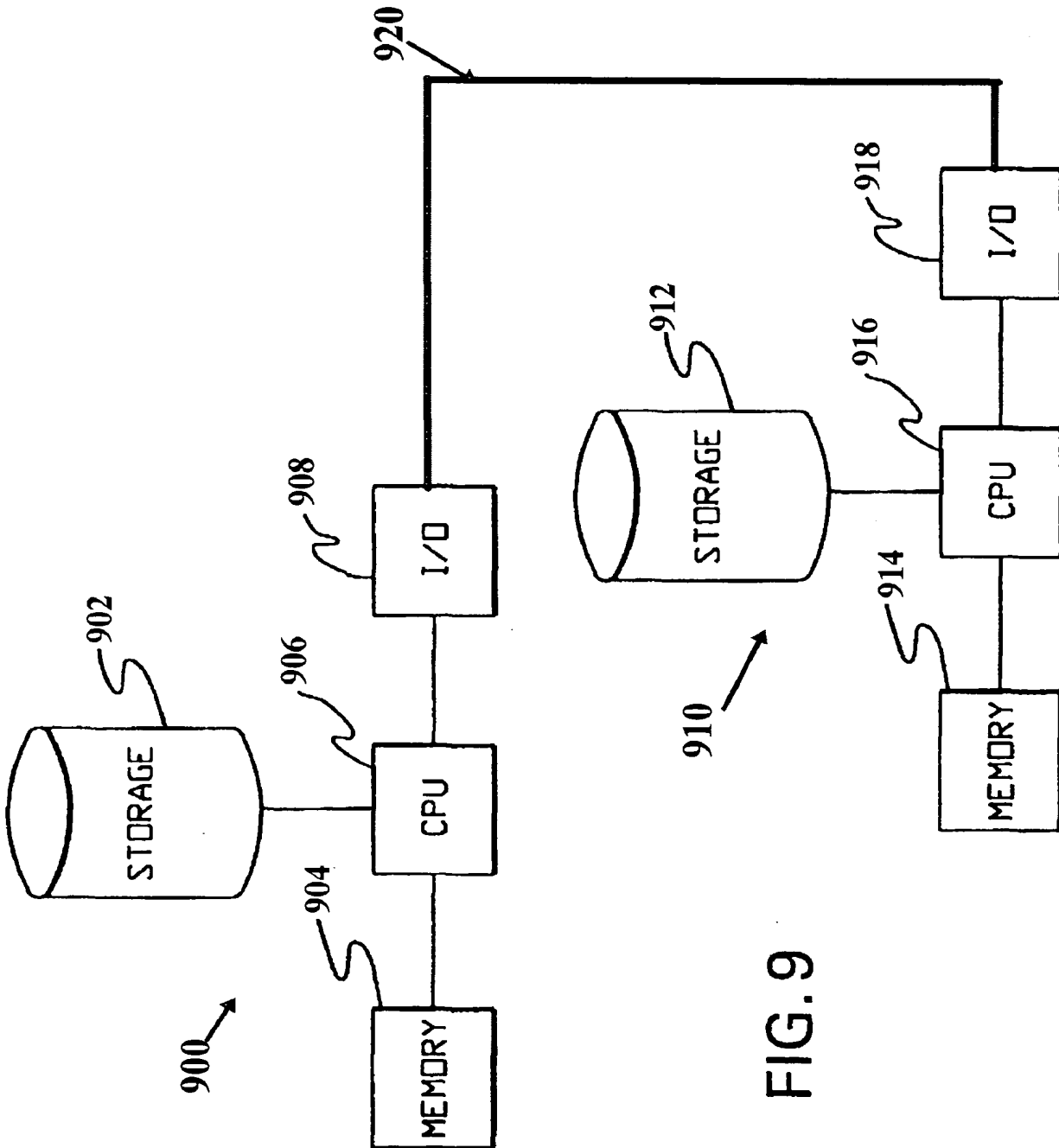


FIG. 9